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| 10/691,150 | 10/22/2003 | Huan-sheng Hwang | 9314-49 | 6598 |

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| EXAMINER |
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A, MINH D

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| ART UNIT | PAPER NUMBER |
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2821

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10/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/691,150

Applicant(s)

HWANG ET AL.

Examiner

Minh D. A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/27/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 19-31, 35-36 and 39-43 is/are rejected.
- 7) ☒ Claim(s) 14-18 and 32-34, 37-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's communication filed on 7/27/07 has been carefully considered by the examiner. The arguments advanced therein are persuasive with respect to the rejections of record, and those rejections are accordingly withdrawn. In view of a further search, however, a new rejection is set forth below. This action is not made final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7, 9-11, 20-26, 28-29, 35-36 and 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Suguro (Patent No. U.S. 6,459,916).

Regarding claim 1, Suguro discloses, in figures 1-5, a portable radio communication device comprising a ground plane (under dielectric sheet (3) has a ground-plane, see figure 4, col.4, lines 42-63); a conductor loop (conductor plate (2) overlying the ground plane (under dielectric sheet (3); and a monopole (14) extending off the ground plane and wherein the monopole and the conductor loop (conductor plate (2)) are configured to be coupled to a common feed-point (feed pin (1)). Col.2, lines 54-67 to col.5, lines 1-25.

Regarding claims 2, and 21, Suguro discloses, wherein the conductor loop has a reflective feature therein since the conductor loop is conductive or current can be drive it for radiating or reflect such as signal from antenna.

Regarding claims 3, 22, Suguro discloses the reflective feature having a corner.
See figures 4-5.

Regarding claims 4, 23, Suguro discloses wherein the conductor loop is rectangular. See figures 4-5.

Regarding claims 5, 24, Suguro discloses wherein the conductor loop is substantially parallel to the ground plane. See figures 4-5.

Regarding claims 6, 25, Suguro discloses wherein the monopole is substantially parallel to the conductor loop. See figures 4-5.

Regarding claims 7, 26, Suguro discloses wherein the monopole is coupled to the conductor loop at a corner. See figures 4-5.

Regarding claims 9, 28, Suguro discloses wherein the conductor loop is positioned adjacent an edge of the ground plane, and wherein the monopole extends off the edge of the ground plane. See figures 4-5.

Regarding claims 10-11, 29, Suguro discloses wherein the ground plane comprises a conductive layer on a printed circuit substrate. See figures 4-5.

Regarding claim 20, Suguro discloses a frame, (a radio communication device has antenna holder (10) and housing or telephone device as shown in figures 4-5), a ground plane (under dielectric sheet (3) disposed on the substrate supported by the frame; a conductor loop (2) support by the frame and overlying the ground plane (under dielectric sheet (3); and wherein the monopole (14) and the conductor loop (2) are configured to be coupled to a common feed-point (1). Col.2, lines 54-67 to col.5, lines 1-25.

Regarding claims 35-36, Suguro discloses in figures 4-5, the frame comprises a clamshell housing having first and second rotatably attached portions, wherein the ground plane comprises substrate comprises electrically coupled first and second portions disposed in respective ones of the first and second housing portions.

Regarding claim 39, Suguro discloses in figures 4-5, a frame, a radio communication (see figure 1, a ground plane (under dielectric sheet (3)) disposed on the circuit (30) supported by the frame (portable telephone) and antenna (flat antenna(40)) electrically coupled to the radio communication circuit (31), attached to the frame (92) and comprising commonly fed conductor loop(2) and monopole (14) and helical elements (see figure 4). Col.2, lines 54-67 to col.5, lines 1-25.

Regarding claim 40, Suguro discloses in figures 4-5, wherein the conductor loop has a reflective feature therein since the conductor loop is conductive or current can be drive it.

Regarding claims 41-42, Suguro discloses, in figures 4-5, the reflective feature having a corner. Col.5, lines 33-67 to col.7, lines 1-67.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8, 12-13, 19, 27 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Suguro (Patent No. U.S. 6,459,916).

Regarding claims 8 and 13, Suguro discloses the claimed invention except for a frequency range from about 1.5 GHz to about 2.5 GHz. However, this difference is not of patentable merit, since an arrangement from difference frequency is operated in the same manner, provide a high frequency for mobile or cellular phone. Therefore, to employ a frequency range from about 1.5 GHz to about 2.5 GHz of antenna of Suguro upon a particular application or frequency of use, would have been deemed obvious to a person skilled in the art.

Regarding claims 12, 19 and 30, Suguro essentially discloses the claimed invention but does not explicitly disclose that, the helical element arranged coaxial.

It would have been an obvious matter of design choice to employ Ito in any desired interest environment, or difference device in order to maximize the usage of his invention, since applicant does not disclose that, all of these limitations can solve any stated problem and for any particular purpose. Therefore, it appears that, the invention would not provide any improvement but merely apply the invention in different presentation.

Regarding claims 27 and 31, Suguro discloses the claimed invention except for a frequency range from about 1.5 GHz to about 2.5 GHz. However, this difference is not of patentable merit, since a range from difference frequency is operated in the same manner, provide a high frequency for mobile or cellular phone. Therefore, to employ a frequency range from about 1.5 GHz to about 2.5 GHz of antenna of Suguro upon a

particular application or frequency of use, would have been deemed obvious to a person skilled in the art.

Regarding claim 43, Surguro discloses the claimed invention except for a frequency range from about 1.5 GHz to about 2.5 GHz. However, this difference is not of patentable merit, since a range from difference frequency is operated in the same manner, provide a high frequency for mobile or cellular phone. Therefore, to employ a frequency range from about 1.5 GHz to about 2.5 GHz of antenna of Surguro upon a particular application or frequency of use, would have been deemed obvious to a person skilled in the art.

Allowable Subject Matter

7. Claims 14-18, 32-34, 37-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art does not teach that, wherein the monopole comprises a retractable monopole configured to extend and retract through the helical element and configured to connect to the common feed-point in an extended position recited in dependent claim 14 and 37.

Prior art does not teach that, the ground plane comprises a rectangular ground plane; wherein the conductor loop comprises a rectangular conductor loop having a side substantially aligned with a shorter side of the rectangular ground plane; wherein the monopole comprises a substantially linear conductor that extends substantially perpendicular to the edge of the ground plane from a coupling point at a corner of the

Art Unit: 2821

rectangular conductor loop at the edge of the ground plane recited in dependent claim 16 and 32.

Citation of relevant prior art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Woo (US 6,317,086) and Bowers et al (US 5,914,692) are cited to show a multiple loop antenna.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

Application/Control Number: 10/691,150

Page 8

Art Unit: 2821

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner

Minh A

Art Unit 2821

9/26/07

Shih-Chao Chen
SHIH-CHAO CHEN
PRIMARY EXAMINER